

Transient Voltage Suppressors for ESD Protection

ESD3.3V88D-LCDN

Description

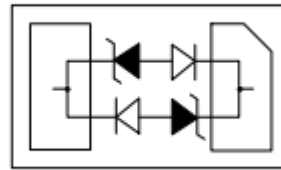
The ESD3.3V88D-LCDN is low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over-voltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients)



Feature

- ◆ 225 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- ◆ Protects One Bidirectional I/O Line
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (LIGHTNING) 16A (8/20μs)
- ◆ IEC61000-4-2(ESD):±30kV (air discharge)
±30kV (contact discharge)

Functional Diagram



Applications

- ◆ 10/1000 Gigabit interface
- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ Pagers

Mechanical Data

- ◆ SOD-882/DFN1006 (1.0x0.6x0.5mm) Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 0.5 Milligrams (Approximate)
- ◆ Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
P _{pp}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	225	Watts
TL	Lead Soldering Temperature	260 (10 sec.)	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C
T _J	Operating Junction Temperature Range	-55 to +150	°C

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Electrical Characteristics(@25°C Unless Otherwise Specified)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA;$	3.5	--	--	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V, T=25^{\circ}C;$	--	--	0.1	μA
Positive Clamping Voltage	V_C	$I_{PP} = 1A, T_P = 8/20\mu s ;$	--	--	5.0	V
Junction capacitance	C_J	$V_R = 0V, f = 1MHz;$	--	15	--	pF

Characteristics Curves

Fig1: 8/20 μs Pulse Waveform

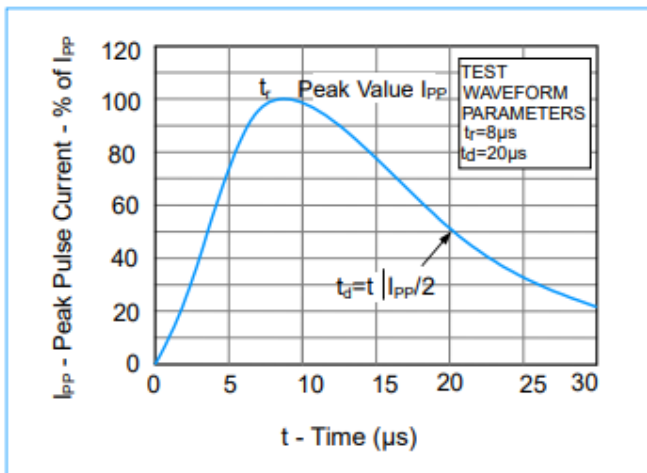


Fig2. Power Rating Derating Curve

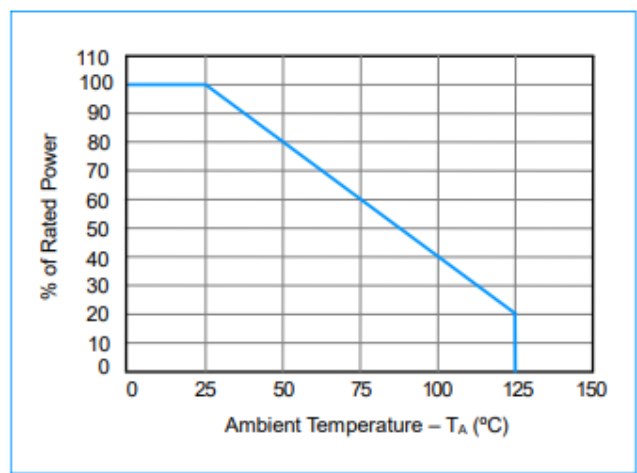


Fig3. ESD Pulse Waveform (according to IEC 61000-4-2)

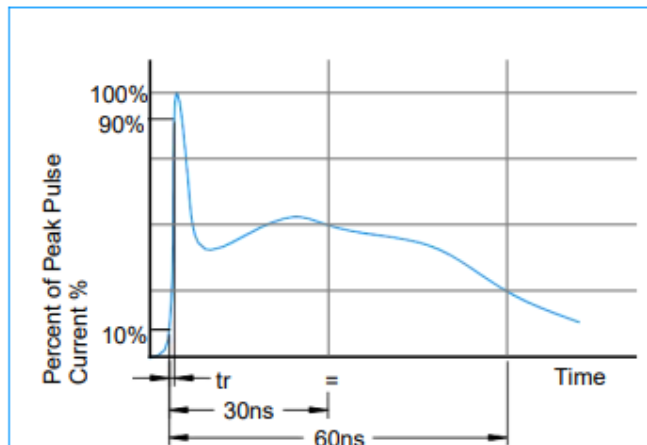
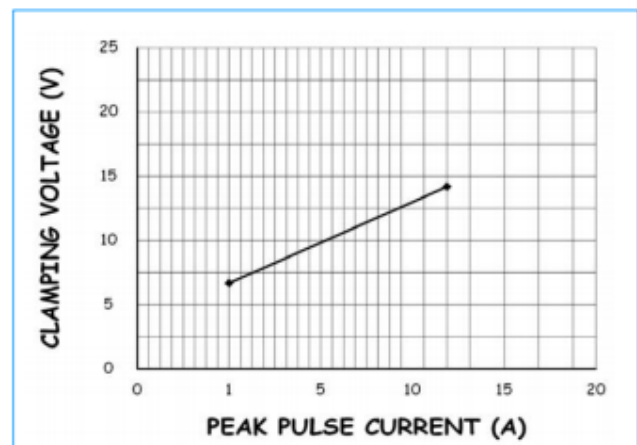


Fig4. Clamping Voltage vs. Peak Pulse Current

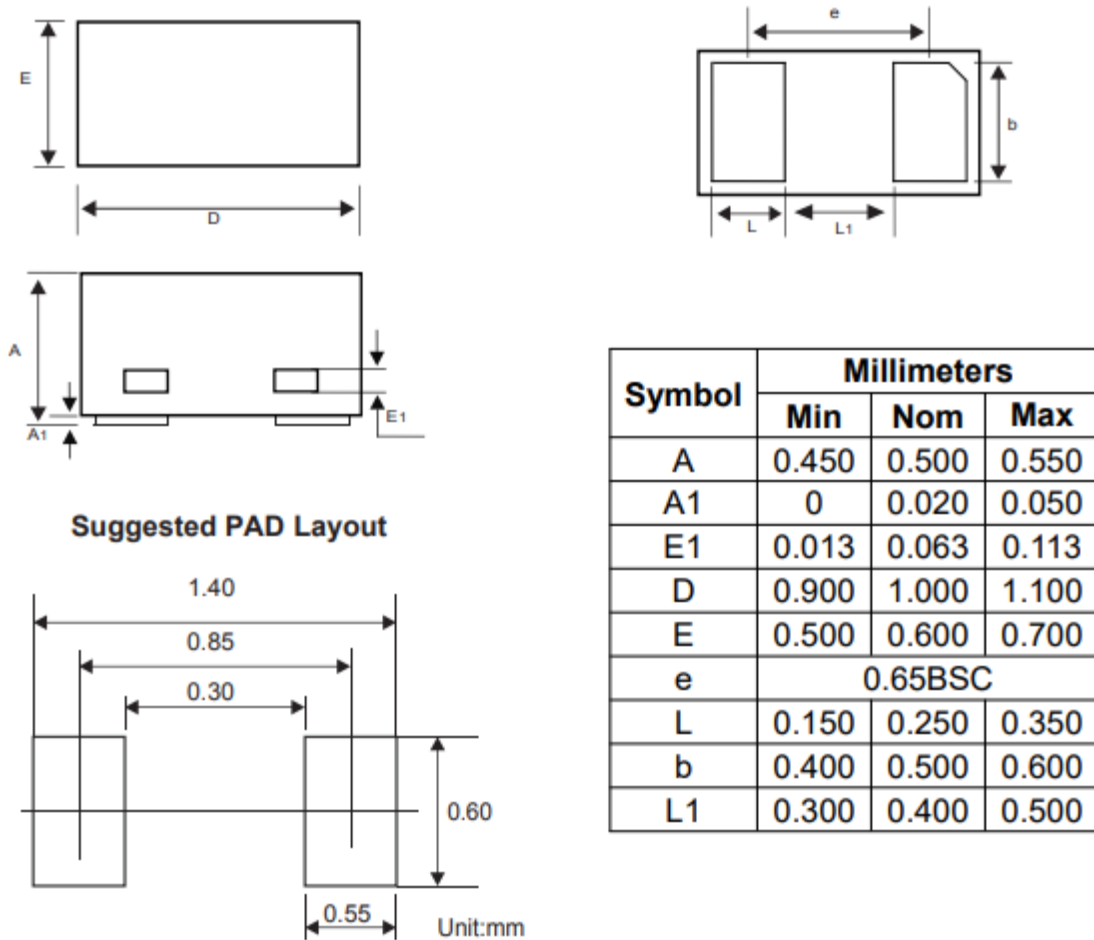


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ESD3.3V88D-LCDN

SOD-882/DFN1006 Package Outline & Dimensions

SOD-882/DFN1006



Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD3.3V88D-LCDN	ES	SOD-882/DFN1006	10,000pcs/Reel	7 inch